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31N<sup>o</sup> 26,655

A.D. 1896

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Complete Specification Left, 24th Aug., 1897—Accepted, 24th Nov., 1897

## PROVISIONAL SPECIFICATION.

## Improved Process for Brewing.

I, CONRAD ZIMMER, of 24 Sadowa Strasse, Breslau, Germany, Engineer, do hereby declare the nature of this invention to be as follows:—

According to this invention the barley malt employed as raw material for brewing beer is separated into two products, of which each one is treated by itself for a second saccharification, after which both are combined again the farther brewing process being then completed in the well known manner.

The product No. I (meal) gives a mash poor in diastase which can be boiled, while product No. II (bran) gives a mash rich in diastase, which must not be boiled and which consequently does not pass into a boiling vessel. In the following description the two above described kinds of mash will be respectively referred as mash I (meal) and mash II (bran), while the mixture of these two will be called mash III.

After the malt has been separated by any known means into the products I and II the husks or bran is mashed in a combined mashing and clarifying-vat, being heated to from 45° to 55° Reamur, and from this mash poor in extract but rich in diastase, the wort is drawn off and used for mashing product I (meal) in a mash tun heated by steam, the mash is saccharated and boiled and is then allowed to stand, the clear wort being then decanted as far as possible directly into the hop kettle. The residues remaining in the mash kettle and the mash tun, that is to say the spent malt and the mash residue, are introduced together into a centrifugal pump or disintegrator, and the thus combined mash III is passed into the mash tun or mash kettle, and after the total quantity of mash has passed through the pump, it is passed into the mashing and clarifying tun, this being done in such manner that the albuminous particles and small suspended husk particles cannot pass below the double bottom.

The temperatures are so arranged that the mash III has 58° R. in the tun.

In the centrifugal pump or the disintegrator all the enclosed starch particles that have not yet been saccharified, are opened up, and saccharified.

After the mash III has been allowed to stand in the usual manner, it is clarified, which is very rapidly effected and if necessary it is farther treated in the known manner.

The wort drawn from mash III is combined with the wort from product I.

The further process of boiling the wort is carried out in the usual manner.

By the above described process I have succeeded in obtaining the advantages of treating the meal without requiring to clarify by means of centrifugal apparatus or filter presses. Furthermore the advantages are gained of obtaining the theoretical yield, perfect durability, and purity of flavour.

Dated this 24th day of November 1896.

ABEL & IMRAY,  
Agents for the Applicant.



*Zimmer's Improved Process for Brewing.*

## COMPLETE SPECIFICATION.

## Improved Process for Brewing.

CONRAD ZIMMER, of 24 Sadowa-strasse, Breslau, in the Empire of Germany, Brewer's Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

My invention relates to an improved process for brewing, by which the barley malt 5 used as a raw material for brewing beer is separated into two materials which are in the first instance treated each by itself, and are combined only in a second saccharifying process, whereupon the brewing is terminated by the methods heretofore generally practised.

The flour constituting the first material gives a mash poor in diastase, which is 10 boiled, whilst the bran constituting the second material gives a mash rich in diastase, which is not boiled and therefore never enters a copper. I will hereinafter name the mash produced from the first material (flour) the first mash, and the mash produced from the second material (bran) the second mash, whilst the third mash is formed by combining the first and second mashes.

After the malt has been separated by well-known methods into the first and 15 second materials the husks forming the second material are mashed in a combined mashing tun and clearing vat and infused at a temperature of from 45 to 54° R<sup>1</sup>; from this mash, which is poor in extract but rich in diastase, I draw a wort with which the first material (flour) is mashed in a mashing boiler with a steam heater 20 and saccharified, then the whole mash is boiled and allowed to stand, and the clear wort decanted as far as practicable directly into the hop boiler.

The remainders contained in the mashing boiler and in the mashing tun, that is to say the spent grain and residues of mash, are conveyed at the same time to a centrifugal or other rotary pump, thereby becoming mixed and producing a third 25 mash which is pumped to the mashing tun or mashing boiler, and this third mash, after the entire quantity of the same has passed through the pump, is finally conveyed to the combined mashing tun and clearing vat so that the particles of albumin and small suspended fragments of husk cannot pass below the false bottom.

The temperatures used are such that the third mash has from 58 to 60° R. in 30 the tun or vat. In the centrifugal pump or in the disintegrator a portion of the enclosed particles of starch, not saccharified up to that time, is opened up and then saccharified in the following process.

After the third mash has been allowed to stand as usual, the clearing takes place 35 very rapidly and if necessary sparging is effected in the well-known manner. The wort drawn from the third mash is combined with the wort obtained from the first material.

The further process of boiling the wort is carried out in the well-known manner.

By this improved process I gain the advantage of treating the flour without 40 necessitating the clearing by centrifugal apparatus or filter presses, and of obtaining the theoretic yield and securing the absolute durability and purity of the flavour of the product.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I 45 claim is;—

A process for brewing, whereby the malt materials (flour and bran) are treated separately and a mash rich in diastase and a mash poor in diastase are produced, the



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*Zimmer's Improved Process for Brewing.*

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flour being mashed with the extract from the bran, saccharified, boiled and cleared, the spent grains of this mash and the lixiviated bran being then combined to form a mash, and the wort extracted from the latter being mixed with the wort first obtained, substantially as specified.

5 Dated this 24th day of August 1897.

CHARLES JUNGE,  
Agent for the Applicant.

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